

U.S. Pat. App. Ser. No. 10/729,593
Attorney Docket No. 10191/3417
Appeal Brief



[10191/3417]

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES**

----- X
In re Application of:

Richard AUMAYER et al.

For: METHOD FOR CHARGING
A BATTERY

Filed: December 5, 2003

Serial No.: 10/729,593

: Examiner: Alexis A. Boateng

: Art Unit: 2838

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APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37
(35,365)

SIR:

In the above-identified patent application ("the present application"), Appellants mailed a Notice Of Appeal on May 31, 2007 (which was filed on June 5, 2007) from the Final Office Action issued by the U.S. Patent and Trademark Office on February 6, 2007, so that the two-month appeal brief due date is August 5, 2007, which has been extended by four months to December 5, 2007 by the accompanying Transmittal and Petition to Extend.

In the Final Office Action, claims 1, 2 and 4 to 15 were finally rejected. A Response After A Final Office Action (no amendments were made) was mailed on April 17, 2007, and an Advisory Action was mailed on May 16, 2007.

It is understood for purposes of the appeal that any Amendments to date have already been entered by the Examiner, and that the Response After Final does not require entry since it included no amendments.

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As to the length of the “concise explanation” of the subject matter defined in each of the claims involved in the appeal (see 41.37), the “concise explanation” language is like the “concise explanation” requirement of former Rule 37 CFR 1.192. Accordingly, the length of the concise explanation provided is therefore acceptable, since it would have been acceptable under 37 CFR 1.192 and since it specifically defines the subject matter of the independent claims involved in the appeal. In the filing of many appeal briefs under the old rule for the present Assignee, the length of the final “concise explanation” has almost always been accepted by the Patent Office.

It is therefore respectfully submitted that this Appeal Brief complies with 37 § C.F.R. 41.37. Although no longer required by the rules, this Brief is submitted in triplicate as a courtesy to the Appeals Board.

It is respectfully submitted that the final rejections of claims 1, 2 and 4 to 15 should be reversed for the reasons set forth below.

1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is Robert Bosch GmbH (“Robert Bosch”) of Stuttgart in the Federal Republic of Germany. Robert Bosch is the assignee of the entire right, title and interest in the present application.

2. RELATED APPEALS AND INTERFERENCES

There are no interferences or other appeals related to the present application, which “will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal”.

3. STATUS OF CLAIMS

CLAIM 3 is CANCELED.

A. Claims 1, 5 to 7, 12 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) in view of Minamiura et al., U.S. 2002/0000787 A1.

B. Claims 2 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Roseman, U.S. Patent No. 5,623,197.

C. Claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Kohl, U.S. Patent No. 5,594,321.

D. Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Maechara, U.S. Patent No. 6,777,905.

E. Claim 13 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 ("Koo") (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Bertness, U.S. 2003/0025481.

F. Claim 14 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 ("Koo") (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Cheiky, U.S. Patent No. 6,459,243.

Appellants therefore appeal from the final rejections of pending and considered claims 1, 2 and 4 to 15. (Claim 10 has been corrected since it should have depended from claim 1 when claim 3 was previously canceled). A copy of all of the pending and considered and appealed claims 1, 2 and 4 to 15 is attached hereto in the Claims Appendix.

4. STATUS OF AMENDMENTS

In response to the Final Office Action mailed on FEBRUARY 6, 2007, Appellants filed a Response After A Final Office Action (with no amendments), which was mailed on April 17, 2007.

It is understood for purposes of the appeal that any Amendments to date have already been entered by the Examiner, and that the Response After Final does not require entry since it included no amendments.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The concise explanation of the summary of the claimed subject matter is as follows, as described in the context of the present application.

The Background Section of the pres4ent application explains that when charging batteries below the gassing voltage, a concentration polarization of the electrodes results due to the built-up acid with a higher density in the pore structure. The counter-voltage of the battery increases as a result of these procedures, and a charging current is no longer received. The higher density acid sinks down within the cell. Since the exchange of acid directly in the

pore structure of the plates of the battery with the acid reservoir between the electrodes can only occur via diffusion, exchange processes occur very slowly. The observed acid stratification, which limits the usable capacity of the battery and results in a reduction in the duration of usage time, occurs in the battery in combination with discharges via high currents that mainly discharge the upper electrode portion of the battery electrodes. (See specification, page 1, line 27 to page 2, line 8).

The presently claimed subject matter is directed to preventing the usable capacity from being limited by acid stratification occurring in the battery. This advantage is achieved by dynamizing the charging phase either by forcing discharges or by temporarily increasing the charging voltage. A brief discharge may be forced at regular intervals during a charging phase. The temporary discharge can be achieved either by temporarily switching on consumers, or by interrupting the charging phases at predefinable instants. (See specification, page 2, lines 11 to 18).

As to independent claims 1, 12, 13 and 15 (including the means of claim 15), each of the independent claims is described as follows in the present application.

The Figure shows a generator and the corresponding control circuit for carrying out the method according to the presently claimed subject matter. Generator 10 includes excitation winding 11 and stator windings 12, 13, and 14. Excitation current or field current I_F , which is regulated by voltage regulator 15 in a predefinable manner, flows through excitation winding 11. Generator 10 is driven by the crankshaft of the engine via a suitable coupling and emits a regulated output voltage or output current. (See specification, page 3, line 28 to page 4, line 2).

A pulse inverter 16 having pulse inverter elements 17 through 22, which are controlled in a predefinable manner either also by regulator 15 or by an external control device 23 to regulate the generator output voltage, is used for rectifying the current produced in the windings of generator 10, or rectifier having six diodes or Zener diodes may be used. (See specification, page 4, lines 4 to 9).

The output of generator 10 supplies battery current I_B , which is used for charging battery 25. The battery voltage U_B is supplied to voltage regulator 15 via connection 26 as an

actual value. Consumers 27 are activated via switch 28, which are controlled, for example, by control device 23. Consumers 27 symbolize the different electrical consumers in the vehicle electric system. Consumers 29 can also be switched via switch 30. Consumers 29 are the consumers that are activated according to the presently claimed subject matter to dynamize the charging phase. (See specification, page 4, lines 12 to 21).

Using the system the Figure, the charging method according to the presently claimed subject matter is performed for battery 25. The necessary control pulses or changeovers are introduced via control device 23, which includes at least one microprocessor, which performs the necessary calculations, suitable accumulators, means via which necessary information can be supplied, as well as means for generating control pulses. (See specification, page 4, lines 23 to 31).

To ensure that the disadvantages of battery charging indicated in the "Background Information" section do not occur, control device 23 carries out both charging methods or procedures as follows:

1. The charging phase is dynamized by exceeding the gassing voltage. As with the presently claimed subject matter of each of the independent claims, to prevent acid stratification in the battery, the charging voltage is raised above the gassing voltage of the battery at predefinable instants or conditions. As a result, gas bubbles form in the acid ensuring optimal mixing of the acid in the individual battery cells. A permanent increase in the charging voltage is not possible due to the negative effects on corrosion and water consumption. The described increase in charging voltage generally creates gas bubbles that cause the acid areas with different densities to mix. This counteracts the formation of a higher counter-voltage as well as acid stratification. The increase in charging voltage is triggered by control device 23. The target value for the voltage regulator, for example, is then increased so that the generator emits a voltage that results in a voltage (e.g., 16 v) at battery 25. (See specification, page 5, lines 3 to 20).

2. In a second charging method, the charging phase is dynamized via targeted discharges. In this context, a brief discharge is forced during a charging phase at regular intervals. Corresponding switch 30 of consumer 29 is closed temporarily by supplying a control signal. Discharging of battery 25 can also be achieved by interrupting the excitation

of the generator or by de-excitation. Regulator 15 or control device 23 influences excitation current IE via excitation winding 11 so that it returns to a minimum value. For example, the excitation current is influenced or regulated such that it is reduced to zero for one second every 20 to 30 seconds, this influencing of the excitation current being performed in addition to the usual regulation of the excitation current. (See specification, page 5, line 30 to page 6, line 8).

A discharge pulse results in a depolarization of the electrodes since the acid density decreases locally, thus temporarily resulting in improved receiving of the charging current. Such a dynamization of the charging phases allows a vertical stratification of the acid density with short diffusion distances. The reduction in concentration polarization results in improved receiving of the charging current as compared to conventional systems. (See specification, page 6, lines 10 to 18).

In summary, the presently claimed subject matter of claim 1 is to a method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method including: in a first charging method, maintaining a substantially constant voltage; in a second charging method, taking measures resulting in dynamization; and in the second charging method, forcing discharges at predefined instants by one of switching on a predefined consumer and de-exciting a charging device. (See claim 1).

As to dependent claim 2 (which depends from claim 1), this claim further provides that the battery is a lead-acid battery in a motor vehicle that is charged via a generator that is regulated to predefined voltages via a voltage regulator. (See claim 2).

As to dependent claim 8 (which depends from claim 6), this claim further provides that the charging voltage is increased via corresponding controlling by a voltage regulator, which provides an increased target voltage value for regulating an output voltage. (See claim 8).

As to dependent claim 9 (which depends from claim 6), this claim further provides that the charging voltage is influenced in the case of a generator having a controlled rectifier bridge by activating pulse inverter elements of a rectifier bridge. (See claim 9).

As to dependent claim 10 (which should have depended from claim 1, since claim 3 was previously canceled), this claim further provides that the charging device is de-excited such that an excitation current is interrupted in each case after a predefined first time for a second time, the first time being in a range of 20 to 60 seconds and the second time being about one second. (See claim 10).

As to dependent claim 11 (which depends from claim 10), this claim further provides that the charging device is de-excited via corresponding controlling of a regulating transistor of a voltage regulator. (See claim 11).

In summary, the presently claimed subject matter of claim 12 is to a method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method including: in a first charging method, maintaining a substantially constant voltage; in a second charging method, taking measures resulting in dynamization; in the second charging method, forcing discharges at predefined instants by one of switching on a consumer and de-exciting a charging device; and increasing a charging voltage with respect to a usual value at predefined instants. (See claim 12).

In summary, the presently claimed subject matter of claim 13 is to a method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method including: in a first charging method, maintaining a substantially constant voltage; in a second charging method, taking measures resulting in dynamization; and increasing a charging voltage only when one of (a) no voltage-critical consumers are switched on and (b) voltage-critical consumers are switched off prior to an increase in voltage. (See claim 13).

As to dependent claim 14 (which depends from claim 1), this claim further provides that the method is carried out in such a manner that negative effects on specific values are prevented, predefined priorities being taken into consideration when selecting the methods. (See claim 14).

In summary, the presently claimed subject matter of claim 15 is to a device for charging a battery including: means for maintaining a substantially constant voltage in a first charging method and for taking measures resulting in dynamization in a second charging method; and means for, in the second charging method, forcing discharges at predefined instants by one of switching on a predefined consumer and de-exciting a charging device. (See claim 15).

Finally, the appealed claims include no step-plus-function claims, so that 41.37(v) is satisfied as to its specific requirements for such claims, since none are present here. The present application does not contain any step-plus-function claims because the method claims in the present application are not “step plus function” claims because they do not recite “a step for”, as required by the Federal Circuit and as stated in Section 2181 of the MPEP.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1 to 20 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of U.S. Patent No. 5,706,278 (the “Robillard” reference) and that which the Office Actions to date refer to as “Applicant’s Admitted Prior Art” (“AAPA”) (but which is only labeled “Background Information” in the present application).

7. ARGUMENT

A. The Rejections Under 35 U.S.C. § 103 That Claims 1, 5 to 7, 12 and 15 Are Obvious

With respect to paragraph two (2), claims 1, 5 to 7, 12 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) in view of Minamiura et al., U.S. 2002/0000787 A1.

In rejecting a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a prima facie case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria

must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Thus, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also suggest combining the features in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)).

The Minamiura reference refers to a method for charging battery packs in a hybrid vehicle having a plurality of battery units. In this context, it is proposed to optimize the charging so that charging is performed using two different charging methods. In the first charging method, charging is performed using a large electric current. This charging takes place until the pressure in a battery cell, measured with the aid of a sensor, rises to a limiting value. After that, charging is performed using a lower current, in order to prevent a further pressure increase. In addition, paragraph 0037 (cited by the Examiner) indicates that, at a charge state of 100%, in a third charging method (or discharging method), a discharge of the battery is undertaken, to lower the pressure. How this discharging as undertaken is not described in the cited document.

However, from this place in the text, the Office conclusorily concludes that there is a deactivation of the charging device; that is, a deactivation occurs as to the generator used for the battery charging. However, this is not described or suggested at any place in the cited document. It is only stated that a discharge is undertaken.

The Minamiura reference does not show the claimed subject matter, whether taken alone or in combination with the other references, because of the following differences:

In Minimiura., charging is performed using different currents, and in the claimed subject matter of claim 1, in the first charging method, regulation is performed to a constant voltage.

In Minimiura, different charging methods are used to reduce the pressure, their selection taking place as a function of the measured pressure. In the claimed subject matter of claim 1, in the second charging method, a dynamization is achieved (for instance, a better mixing through of the battery acid), and the two charging methods are selected independently of the pressure, that is, the pressure is not measured at all.

Finally, in the claimed subject matter, in the second charging method, a discharge is undertaken by switching in a user or by a de-excitation of a charging device, that is, of the generator, whereas in Minamiura it is not stated at all how the discharging is undertaken after the maximum charge is attained.

The combination of Koo and Minamiura do not yield the claimed subject matter without any problem, since, even if two different charging methods were mentioned for battery charging, this is not done to implement the advantages and benefits resulting from the claimed subject matter, as provided for in the specification.

Accordingly, claim 1 is allowable, as are its dependent claims 2, 4 to 11 and 14.

Claims 12, 13 and 15 include features like those or analogous to those of claim 1, and are therefore allowable for essentially the same reasons as claim 1.

**B. The Rejections Under 35 U.S.C. § 103
That Claims 2 and 8 Are Obvious**

With respect to paragraph three (3), claims 2 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Roseman, U.S. Patent No. 5,623,197.

Claims 2 and 8 depend from claim 1. It is therefore respectfully requested that the obviousness rejections be withdrawn since dependent claims 2 and 8 are allowable for essentially the same reasons as claim 1 as presented, and since the “Roseman” reference does not cure the critical deficiencies of the “Koo” reference or Minamiura, which were explained above. This is because any review of the secondary “Roseman” reference makes clear that it

simply does not in any way disclose or suggest the claim 1 features, as explained above, and that it does not cure and is not asserted to cure the deficiencies of the Koo or Minamiura references. Accordingly, claims 2 and 8 are allowable.

**C. The Rejections Under 35 U.S.C. § 103
That Claim 9 Is Obvious**

With respect to paragraph four (4), claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Kohl, U.S. Patent No. 5,594,321.

Claim 9 depends from claim 1. It is therefore respectfully requested that the obviousness rejections be withdrawn since dependent claim 9 is allowable for essentially the same reasons as claim 1 as presented, and since the “Kohl” reference does not cure the critical deficiencies of the “Koo” reference or Minamiura, which were explained above. This is because any review of the secondary “Kohl” reference makes clear that it simply does not in any way disclose or suggest the claim 1 features, as explained above, and that it does not cure and is not asserted to cure the deficiencies of the Koo or Minamiura references.

Accordingly, claim 9 is allowable.

**D. The Rejections Under 35 U.S.C. § 103
That Claims 10 and 11 Are Obvious**

With respect to paragraph five (5), claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Maechara, U.S. Patent No. 6,777,905.

Claims 10 and 11 depend from claim 1. It is therefore respectfully requested that the obviousness rejections be withdrawn since dependent claims 10 and 11 are allowable for essentially the same reasons as claim 1 as presented, and since the “Maechara” reference does not cure the critical deficiencies of the “Koo” reference or Minamiura, which were explained above. This is because any review of the secondary “Maechara” reference makes clear that it simply does not in any way disclose or suggest the claim 1 features, as explained above, and

that it does not cure and is not asserted to cure the deficiencies of the Koo or Minamiura references. Accordingly, claims 10 and 11 are allowable.

**E. The Rejections Under 35 U.S.C. § 103
That Claim 13 Is Obvious**

With respect to paragraph six (6), claim 13 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Bertness, U.S. 2003/0025481.

Claim 13 includes features analogous to those of claim 1 and is therefore allowable for essentially the same reasons since the “Bertness” reference does not cure the critical deficiencies of the “Koo” reference or Minamiura, which were explained above. This is because any review of the secondary “Bertness” reference makes clear that it simply does not in any way disclose or suggest the claim 1 or analogous claim 13 features, as explained above, and that it does not cure and is not asserted to cure the deficiencies of the Koo or Minamiura references. Accordingly, claim 13 is allowable.

**F. The Rejections Under 35 U.S.C. § 103
That Claim 14 Is Obvious**

With respect to paragraph seven (7), claim 14 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,147,473 (“Koo”) (and apparently in view of Minamiura et al., U.S. 2002/0000787 A1) in view of Cheiky, U.S. Patent No. 6,459,243.

Claim 14 includes features like those of claim 1 and is therefore allowable for essentially the same reasons since the “Cheiky” reference does not cure the critical deficiencies of the “Koo” reference or Minamiura, which were explained above. This is because any review of the secondary “Cheiky” reference makes clear that it simply does not in any way disclose or suggest the claim 1 or claim 14 features, as explained above, and that it does not cure and is not asserted to cure the deficiencies of the Koo or Minamiura references. Accordingly, claim 14 is allowable.

It is therefore respectfully submitted that claims 1, 2 and 4 to 15 are allowable for these reasons.

As further regards the obviousness rejections, it is respectfully submitted that the cases of In re Fine, supra, and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Office's generalized assertions that it would have been obvious to modify or combine the references do not properly support a § 103 rejection. It is respectfully submitted that those cases make plain that the Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done. . . .

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943, 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the Office Actions to date offer no evidence whatsoever, but only conclusory hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to modify or combine references to provide the claimed subject matter of the claims to address the problems met thereby. Accordingly, the Office must provide proper evidence of a motivation for modifying or combining the references to provide the claimed subject matter.

Also, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” — which is not the case here — there still must be some finding as to the “specific understanding or principle within the knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed,” stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper prima facie case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (emphasis added). Here again, there have been no such findings to establish that the features discussed above of the rejected claims are met by the reference relied upon. As referred to above, any review of the reference, whether taken alone or combined, makes plain that the reference simply does not describe the features discussed above of the rejected claims.

Thus, the proper evidence of obviousness must show why there is a suggestion as to the reference so as to provide the subject matter of the claimed subject matter and its benefits.

In short, there is no evidence that the reference relied upon, whether taken alone or otherwise, would provide the features of the claims discussed above. It is therefore respectfully submitted that the claims are allowable for these reasons.

As still further regards all of the obviousness rejections of the claims, it is respectfully submitted that not even a *prima facie* case has been made in the present case for obviousness, since the Office Actions to date never made any findings, such as, for example, regarding in any way whatsoever what a person having ordinary skill in the art would have been at the time the claimed subject matter of the present application was made. (See *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998) (the “factual predicates underlying” a *prima facie* “obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art”)). It is respectfully submitted that the proper test for showing obviousness is what the “combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art”, and that the Patent Office must provide particular findings in this regard — the evidence for which does not include “broad conclusory statements standing alone”. (See *In re Kotzab*, 55 U.S.P.Q. 2d 1313, 1317 (Fed. Cir. 2000) (citing *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1618 (Fed. Cir. 1999) (obviousness rejections reversed where no findings were made “concerning the identification of the relevant art”, the “level of ordinary skill in the art” or “the nature of the problem to be solved”))). It is respectfully submitted that there has been no such showings by the Office Actions to date or by the Advisory Action.

In fact, the present lack of any of the required factual findings forces both Appellants and this Board to resort to unwarranted speculation to ascertain exactly what facts underly the present obviousness rejections. The law mandates that the allocation of the proof burdens requires that the Patent Office provide the factual basis for rejecting a patent application under 35 U.S.C. § 103. (See *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788

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(Fed. Cir. 1984) (citing *In re Warner*, 379 F.2d 1011, 1016, 154 U.S.P.Q. 173, 177 (C.C.P.A. 1967))). In short, the Examiner bears the initial burden of presenting a proper prima facie unpatentability case — which has not been met in the present case. (See *In re Oetiker*, 977 F.2d 1443, 1445, 24, U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)).

Accordingly, claims 1, 2 and 4 to 15 are allowable for the foregoing reasons.

CONCLUSION

In view of the above, it is respectfully requested that the rejections of the finally rejected claims 1, 2 and 4 to 15 be reversed since these claims are allowable.

Respectfully submitted,

Dated: _____

12/5/2007

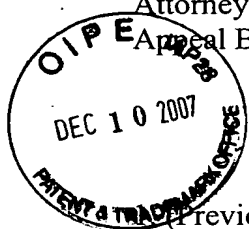
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CLAIMS APPENDIX

(Previously Presented) A method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method comprising:

in a first charging method, maintaining a substantially constant voltage;
in a second charging method, taking measures resulting in dynamization; and
in the second charging method, forcing discharges at predefined instants by one of switching on a predefined consumer and de-exciting a charging device.

2. (Original) The method according to claim 1, wherein the battery is a lead-acid battery in a motor vehicle that is charged via a generator that is regulated to predefined voltages via a voltage regulator.

3. (Canceled).

4. (Previously Presented) The method according to claim 1, wherein the consumer is a window heater.

5. (Previously Presented) The method according to claim 1, wherein the charging device is de-excited during charging phases.

6. (Original) The method according to claim 1, further comprising increasing a charging voltage with respect to a usual value in the second charging method.

7. (Original) The method according to claim 6, wherein the charging voltage is increased to about 16 volts.

8. (Original) The method according to claim 6, wherein the charging voltage is increased via corresponding controlling by a voltage regulator, which provides an increased target voltage value for regulating an output voltage.

9. (Original) The method according to claim 6, wherein the charging voltage is influenced in the case of a generator having a controlled rectifier bridge by activating pulse inverter elements of a rectifier bridge.

10. (Currently Amended) The method according to claim ~~[[3]]~~ 1, wherein the charging device is de-excited such that an excitation current is interrupted in each case after a predefined first time for a second time, the first time being in a range of 20 to 60 seconds and the second time being about one second.

11. (Original) The method according to claim 10, wherein the charging device is de-excited via corresponding controlling of a regulating transistor of a voltage regulator.

12. (Previously Presented) A method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method comprising:

- in a first charging method, maintaining a substantially constant voltage;
- in a second charging method, taking measures resulting in dynamization;
- in the second charging method, forcing discharges at predefined instants by one of switching on a consumer and de-exciting a charging device; and
- increasing a charging voltage with respect to a usual value at predefined instants.

13. (Previously Presented) A method for charging a battery having a control device that influences a charging current for the battery in a predefined manner and carries out at least two different charging methods, the method comprising:

- in a first charging method, maintaining a substantially constant voltage;
- in a second charging method, taking measures resulting in dynamization; and
- increasing a charging voltage only when one of (a) no voltage-critical consumers are switched on and (b) voltage-critical consumers are switched off prior to an increase in voltage.

14. (Original) The method according to claim 1, wherein the method is carried out in such a manner that negative effects on specific values are prevented, predefined priorities being taken into consideration when selecting the methods.

15. (Previously Presented) A device for charging a battery comprising:

means for maintaining a substantially constant voltage in a first charging method and for taking measures resulting in dynamization in a second charging method; and

means for, in the second charging method, forcing discharges at predefined instants by one of switching on a predefined consumer and de-exciting a charging device.

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Appeal Brief

EVIDENCE APPENDIX

Appellants have not submitted any evidence pursuant to 37 CFR Sections 1.130, 1.131 or 1.132, and do not rely upon evidence entered by the Examiner.

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RELATED PROCEEDINGS INDEX

There are no interferences or other appeals related to the present application.